

## ABSTRACT OF THE DISCLOSURE

An adaptive controller generates a sequence of dither signals for each of a plurality of control parameters. Each dither signal sequence is uncorrelated with every other dither signal sequence. Each nominal control signal has the first of its respective dither signal values simultaneously summed with it to form the control parameter values used by the controller. Updated control signals are applied in parallel to the controller outputs and a performance measure is taken and stored. The second signals in the dither control sequences are then summed with their respective nominal controls and applied in parallel to the controller and a second performance measure is taken and stored. This process is repeated for the length of the dither control signal sequence to yield a sequence of performance measurements. The sequence of performance measurements is correlated with each of the dither sequences, forming sequences of correlator outputs, one for each control signal. Each correlator output sequence is integrated and, depending upon the value of a correlator's integration output, the corresponding nominal signal has its dither value added to or subtracted from it to form the respective, updated control values.